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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/921,019	08/02/2001	Thomas A. Velez	P176	7768

7590

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EXAMINER

CREPEAU, JONATHAN

ART UNIT	PAPER NUMBER
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1746

DATE MAILED: 08/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/921,019

Applicant(s)

VELEZ ET AL.

Examiner

Jonathan S. Crepeau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 8-13, 15 and 23 is/are allowed.
6) ☒ Claim(s) 1-5, 14, 16-18, 21 and 22 is/are rejected.
7) ☒ Claim(s) 6, 7, 19 and 20 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4-8-04.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This Office action addresses claims 1-13 and newly added claims 14-23. Claims 8-13, 15, and 23 are allowed, and claims 6, 7, 19, and 20 are objected to as containing allowable subject matter. Claims 1-5, 14, 16-18, 21 and 22 are newly rejected under 35 USC §102 and §103, as necessitated by amendment. Accordingly, this action is made final.

Claim Rejections - 35 USC § 102

2. Claims 1-4, 14, 16-18, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Toyooka et al (U.S. Patent 3,623,916). Regarding claims 1, 14, and 16, the reference teaches a thermal battery system comprising a housing (1), an electrical energy supplying assembly (i.e., a plurality of battery cells) mounted within the housing, and a wire heating assembly (19) for changing the assembly from a non-operating condition to an operating condition (see Fig. 9; col. 1, line 69, et seq.). The battery does not contain any pyrotechnics. Regarding claims 2, 3, and 18, the wire is embedded in an insulating layer (18), which structure is disposed about a portion of the energy generating assembly (see Fig. 6). Regarding claims 4 and 21, a thermostat (51) adjusts the level of heating (see col. 7, line 74). Regarding claim 17, the battery is hermetically sealed (see Fig. 1). It is noted that the limitations “means for changing” and “means for heating”

in claims 1 and 16 are not considered to invoke 35 USC §112, sixth paragraph, because these limitations are both subsequently modified by sufficient structure. See MPEP §2181.

Thus, the instant claims are anticipated.

Claim Rejections - 35 USC § 103

3. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Toyooka et al.

Toyooka is applied to claims 1-4, 14, 16-18, and 21 for the reasons stated above.

Toyooka does not expressly teach that the system comprises a battery charger, as recited in claim 22.

However, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would find it obvious to use a battery charger to charge the battery of Toyooka once the battery capacity has been depleted. Such charging and discharging is cost-effective and allows for multiple uses of the battery. Further, the battery of Toyooka et al. would automatically be recharged if used in a vehicle. Accordingly, the subject matter of claim 22 is not considered to distinguish over the references.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Toyooka et al in view of JP 1-206764.

Toyooka is applied to claims 1-4, 14, 16-18, and 21 for the reasons stated above.

Toyooka does not expressly teach that the heating wire is made of nickel-chrome wire, as recited in claim 5.

JP '764 is directed to a thermal battery. In the abstract, the reference teaches that the battery has a heating element (10) made of nichrome wire.

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would be motivated by the disclosure of JP '764 to use nichrome in the wire of Toyooka. As noted above, the disclosure of JP '764 indicates that nichrome is a suitable material for use in a thermal battery heating wire. The selection of a known material based on its suitability for its intended use has generally been held to be *prima facie* obvious. See MPEP §2144.07. Accordingly, the use of nichrome as the heating element of Toyooka would be obvious to a skilled artisan.

Allowable Subject Matter

5. Claims 8-13, 15 and 23 are allowed.
6. Claims 6, 7, 19, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. The following is a statement of reasons for the indication of allowable subject matter:

Dependent claim 6 recites, among other features, first and second insulation layers, and that the means for changing operating conditions is devoid of any pyrotechnics. Toyooka et al.,

the closest prior art, fails to teach or fairly suggest a second insulation layer. As such, claim 6 contains allowable subject matter.

Independent claim 8 recites, among other features, first and second housings, and that the means for changing operating conditions is devoid of any pyrotechnics. Both WO 89/09497 and JP 1-105473, which are considered to represent the closest prior art, teach that their respective batteries contain pyrotechnics. As such, claim 8 is distinguished over these references.

Dependent claim 19 recites, among other features, a container disposed with the enclosure, and that the means for heating the electrolyte is devoid of any pyrotechnics. Although Toyooka teaches partitions (12) between battery groups, these are not considered to comprise further “containers” as required by claim 19. As such, claim 19 contains allowable subject matter.

Dependent claim 20 recites, among other features, that the heater is disposed about a reference axis along which plurality of cells are disposed in a stack, and that the means for heating the electrolyte is devoid of any pyrotechnics. WO 89/09497 and JP 1-105473, the closest prior art, teach that their respective batteries contain pyrotechnics. As such, claim 20 contains allowable subject matter.

Independent claim 23 recites, among other features, that the first housing contains a first insulation layer mounted about at least a portion of the electrical energy supplying assembly. WO 89/09497 teaches a first housing (7), but fails to teach or fairly suggest an additional layer of insulation inside this housing. Accordingly, claim 23 is allowable.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

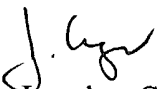
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (571) 272-1299. The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr, can be reached at (571) 272-1414. The phone number for the organization where this application or proceeding is assigned is (571) 272-1700. Documents may be faxed to the central fax server at (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jonathan Crepeau
Patent Examiner
Art Unit 1746
July 29, 2004